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CONFERENCE SYSTEM USER'S GUIDE

MATHEMATICS AND COMPUTATION LABORATORY (FPA)
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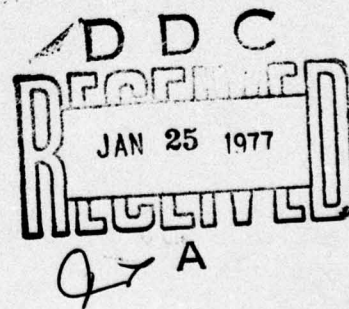| 18. Availability Statement No restriction on distribution. Available from National Technical Information Service, Springfield, Virginia 22151	19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 31
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CONFERENCE SYSTEM USER'S GUIDE

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ABSTRACT

This paper describes three methods of group communication utilizing computer terminals as the vehicle for conducting a group discussion. The system that provides these methods was developed by the Federal Preparedness Agency (FPA) for a Univac 1100 Series Operating System as a convenient form of communication among geographically dispersed individuals and/or as an adjunct to oral communications. Completely normal language is used. Use of the computer permits maintaining a written record automatically and allowing discussions in which participants need not talk and listen in synchronism (in contrast to conventional meetings and telephone conference calls). In two of the methods, the discussants need not even be participating simultaneously. Several other useful features are offered in order to facilitate group solution to problems when that is the conference objective. The system is simple to use and is relatively inexpensive for groups that already possess the necessary computer time-sharing facilities.

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ACKNOWLEDGMENTS

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[1] The Office of Emergency Preparedness is currently the Federal Preparedness Agency (FPA).

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iii

TABLE OF CONTENTS*

TABLE OF CONTENTS (Continued)

Page

APPENDIX

*The initial user may obtain all he needs by reviewing appendices A and B.

Preceding page blank

vii

CONFERENCE SYSTEM USER'S GUIDE

I. INTRODUCTION

A. General Information

The Conference system is the implementation of a form of group communication called *Computer Conferencing*, by means of which several individuals may carry on a highly interactive conversation, using remote typewriter-like terminals connected to a central computer as the communications medium. The participants can be geographically dispersed. In many instances, this coupling of human interaction with the power and speed of a computer offers substantial convenience, as well as time, space, and cost saving advantages over more "conventional" forms of verbal interaction. These advantages include automatic hard copy generation of the conversation, asynchronous interaction for large groups, store-and-forward capabilities, and selective retrieval and recall. Even for groups comprised largely of individuals having only a "casual" typing skill, computer conferencing can provide a convenient and efficient mechanism for communication, or at least a useful adjunct to oral conversations. A more detailed description of the various advantages appears in the papers listed in the bibliography.

The Conference system was designed for use by persons with little or no knowledge of a computer; its user interaction and operating procedures are accordingly very simple. Carrying on the simplest form of computer conference is analogous in operation to carrying on a telephone conference call: at an agreed-upon time, each member goes to his nearest typewriter or visual display type computer terminal, picks up the telephone receiver, dials the computer, signs onto the machine and joins the conference. The first person to call the system (usually a few minutes before the others) starts the conference and is called the *moderator*. Once in the conference, each person either "talks" by typing a message or "listens" by receiving messages entered by the other members. This conversation differs from oral discussion in that each participant is "asynchronous" with the system; i.e., all can be typing or all reading at once, or any arbitrary combination thereof. Each message entered by a member is stored in the computer, then automatically forwarded to each other member as the latter is ready to receive it. In the more advanced forms of computer conferencing, participants need not even be connected to the computer simultaneously, because of the computer storage capabilities. In this mode members go to their terminals not at "an agreed-upon time," but rather when it is

1

convenient for them on an individual basis. When the last member signs off, depending upon the type of conference, the proceedings are either automatically erased from the computer's memory or saved for later continuation or review of the discussion.

In addition to the basic "talk-and-listen" modes, numerous special commands and options have been incorporated into the system. These include special retrieval alternatives (e.g., by sender), the ability to send and receive private messages among subsets of the total conference membership, and arrangements to enter and vote on a set of proposals. This manual provides all information necessary to use every feature of the Conference system from its most complex options (for those who want them) to its simplest form (for those who do not).

B. Party-Line, Discussion, and Conference

This system represents three versions of computerized conferencing systems. The first is *Party-Line* which simulates a telephone conference call. All the participants for Party-Line get on their terminals at about the same time, just as for a telephone conference call; however, each person in the computerized party-line may participate at his own speed. The record of the proceedings is erased from the computer's memory after the last member signs off.

The second version is *Discussion* which permits a continuing conference for which the proceedings are kept by the computer and participants may enter or reenter the discussion whenever they find a convenient time to do so. A discussion may last for days, weeks, or months as circumstances warrant. The moderator who initially starts the discussion is also the only person who can end it.

The third version of the computerized systems, *Conference*, enables members to enter a set of proposals which may be voted upon by the group for both desirability and feasibility. The computer keeps a tabulation of the votes and allows each member to change his vote at any time.

Any of these conference systems may be used in a DELPHI (anonymous) mode by having users specify code names instead of real names. In this mode, no participant, with the possible exception of the monitor, knows the identity of any other participant.

II. PARTY-LINE

A. Signing On and Off—Option Letters

The Party-Line version of the Conference system is called by typing either of the following statements:

@CONFERENCE

@CONFERENCE,_options_

In the second statement above, _options_ indicates the one or more letters used to turn on special features of the system. The options also may be turned on and off during the interaction (See "+O" command). The following list includes the most commonly used options for Party-Line:

OPTION	ACTION
C	Activates the display pause for users on CRT-type terminals or those wanting to avoid long, uninterrupted printouts. In this mode, a pause is generated every few lines during any listing of messages or proposals. The printing is continued by pressing the "RETURN" key, or aborted by typing anything else (followed by "RETURN").
L	Lists the explanation before the user enters the conference. (To obtain a list during the conference, see the "+L" command.)
M	Inhibits echoing back messages entered by the user. (See also "+O" command for echo back of lines of input.)
N	Skips listing the explanation, status of conference members and selected messages to allow a faster user interaction.

An example of the call is: **@CONFERENCE,CMN**

To end interaction with the Conference system, type "@" or "@FIN". When ready to sign off the terminal, terminate the line connection with an @@TERM.

B. Entering and Editing Messages

When asked to enter or edit a message, the user may enter 1 to 9 lines of up to 72 characters each. As each line is finished, a carriage "RETURN" must be entered. If a message is completed before using nine lines, type a "+" as the first character on the next new line. (Except where noted, all special commands must be entered as the first characters on a new line). For editing the text of a message, the following commands are available:

↑	To step back one line.
=	To leave the current line as is and move to the next.
= *n*	To leave the current line as is and jump to line *n*.
"CTRL" and "X" keys	Holding down the "CTRL" key and pressing the "X" key causes the current line of input to be deleted; the line may then be retyped. This procedure may be done anytime before hitting the "RETURN" key.
SHIFT and "O" keys	Holding down the "SHIFT" key and pressing the letter "O" key at anytime deletes the last character entered (a back arrow is printed). This procedure is repeatable for successive characters to be deleted (erased).[1]
+	Terminates message input and switches the user to receive messages.

C. "+" Commands—Interrupt Procedures

Instead of entering a message, the user may enter a "+" command to direct the system to perform certain special tasks. Once a special command is entered, the printing of new messages is suspended until the user enters a new

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[1] Since the procedure for deleting characters differs depending upon the terminal being used, it is advisable to determine the proper procedure beforehand.

4

message, a "+", "+M" or "+W" command. The following "+" commands are recognized by Party-Line:

List Messages:

+M *n*   Prints messages indicated by *n* which can be any list of numbers: e.g., 8, 10, 2 TO 6, 28, etc.

+M *name*   Prints all messages written by *name*.

+? *key phrase*   Prints all messages containing *key phrase*. (To avoid a long list of messages, it is advisable to turn on the display pause C-option.)

Set/Reset Option Letters:

+O[2] *options*   Turns on and off option letters. Letters following a "-" sign are turned off; those following a "+" sign are turned on. Example: "+O C-M+N" turns on C and N, turns off M.

                        Note: The S, E and L options are examined only at the beginning of the Conference; hence, they may be *turned on and off* by "+O" but will produce no effect.

Status of Conference Members:

+S   Lists the current status of each conference member, his date and time of last recorded activity, and number of messages received.

+S *name*   Lists the status of *name* only.

+S#   Lists the current number of messages in the conference.

Wait or Pause   (A wait is limited to 5 minutes.)

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[2] Letter O.

5

+W

Terminal becomes inactive until a new message is entered or a conference member joins or leaves the conference.

+W *name*

Terminal becomes inactive until *name* enters a message or leaves the conference.

Note: In order to prevent a terminal from remaining on-line for a long period of time with no activity occurring, the system will allow a maximum of two 5-minute wait periods per hour.

List Explanation:

+L

Immediately lists the explanation.

An interrupt sequence may be used at anytime to end a wait condition or suspend a printout of messages in order to enter a message or + command. If the terminal is printing, press the "BREAK" or "INTRPT" key to stop output. To initiate an interrupt, type "@@X" followed by the "RETURN" key, then enter the first line of your message or + command without waiting for a "?". The CONFERENCE system will respond within 30 seconds; if not, type a "+" followed by "RETURN".

D. Private Messages

The system allows any conference member to send a private, individual message to any other member. The sender is notified when the message has been received. Each member may send at most one private message at a time. An attempt to enter a second private message before the first has been received will be rejected by the system. The commands are:

+C *name*

Send a private message to *name*. The user will be asked to supply the message after entering this command.

+EC *name*

This copies the user's current private message and sends it to another *name*. It may be used to send the same private message to several members one at a time.

6

+C   Kills the sending of any active private message. The
                      message text is not affected, however; and the user may
                      re-send it using "+EC *name*". Also, a new private
                      message may be entered using "+C *name*".

+EC   Same as "+C".

III. DISCUSSION

All options and commands described for Party-Line also apply for Discussion. Since Discussion may take place over a long period of time, two additional features are available. The author of a message may edit or delete his messages at any time and the moderator may edit or delete any participant's message. The date and time a message is entered, edited or deleted are kept and the user may retrieve messages according to this information. The commands are:

+EM n Edits the messages specified by n.

+EM $-n$ Deletes the messages with numbers preceded by a "-" sign.

+D *date*   Retrieves all messages written on *date*.

+D *date-time*   Retrieves all messages written on *date* after *time*.

+D *date* TO *date*   Retrieves all messages written between the dates.

+ED *date* TO *date*   Retrieves all messages edited between the dates.

Date and *date-time* are in the form:

MM/DD/YY-HH:MM:SS

Example: +D 4/13/72   +D 4/12-12:00

+D 4/10/72-17:00 TO 4/11/72-10:30:25

In order to join a Discussion, the user will need to know its name, i.e., the designation the moderator has supplied. The Discussion name then appears on the Conference call statement as follows:

@CONFERENCE,*options* *Discussion-name*.

Note: *Discussion-name* must be ended by a period.

9

IV. CONFERENCE

Conference allows the group to enter up to 72 proposals (or up to the maximum allowed by the moderator when he sets up the conference). The proposals are voted upon by the conference group on the scales of desirability (DES) and feasibility (FEA). When joining a conference, the user is asked to declare a vote code which he will need to gain entry to the conference each time he reenters. The additional commands for Conference are:

+EP   Allows entry of proposals until a "+" is typed on the first line. Each proposal is assigned to the next free proposal slot.

+EP n Allows the user to edit or enter proposals in the positions indicated by n. Only the author of a proposal or the moderator may edit a proposal. When the moderator edits a proposal, he has the option to retain or clear the votes made on the edited proposal. If someone other than the moderator edits a proposal, the votes are automatically cleared.

+EP $-n$ Allows proposals specified by n to be deleted.

+P n Lists the proposals specified by n.

+V n Allows the user to vote on the proposals specified by n.

+PV n Combines the above two commands.

+PS n Provides a quick summary of the number of votes and vote changes made to each proposal.

+VP n Provides the vote distribution and averages for each proposal number n. This is also given with the "+P" command along with printout of the text. However, the vote results will only be printed out when 80 percent or more of the votes are in and the user requesting the vote has voted upon the particular proposal.

11

+VC *code*   Allows the user to change his current vote code to a
                                new *code* (or the moderator to change his edit code).

On the above commands, if the list *n* is omitted, all the proposals will be
listed.

The voting scales and the numeric code used to vote with are as follows:

DESIRABILITY (DES)	FEASIBILITY (FEA)	NUMERIC CODE
Very Desirable	Definitely Feasible	1
Desirable	Possibly Feasible	2
Undesirable	Not Determinable	3
Very Undesirable	Possibly Infeasible	4
Not Pertinent	Definitely Infeasible	5
No Judgment	No Judgment	6

The Conference system is called in exactly the same manner as Discussion,
namely:

@CONFERENCE,*options   Conference-name*.

12

V. MODERATOR'S INSTRUCTIONS

The moderator is the person who starts a conference. In the case of the Party-Line, he is simply the first person to call up the Conference program and he participates in the discussion as a regular member. In the case of Discussion or Conference, however, he has certain responsibilities (and accompanying privileges) that go with the position.

To start Discussion or Conference, the moderator first selects a 1- to 12-character conference name which he specifies on the Conference call statement, and to insure privacy, discloses the name only to the desired conference members. To insure moderate security of the conference proceedings from unauthorized entry or purging, the moderator may append 1- to 6-character read and write keys to the name; example:

STUDYGROUP10/RDKEY/WRKEY.

The remaining starting procedures are self-explanatory; however, there are two special points which must be mentioned. The moderator will be asked to declare an edit code which must be specified to gain reentry at a later time. This procedure helps prevent others from masquerading as the moderator. Also, the moderator is asked to declare the maximum number of proposals allowed. He should enter 0 (zero) to declare Discussion, or enter a number between 1 and 72 to declare a Conference.

Within the discussion, the moderator can exercise some control over the proceedings. He may edit anyone's messages in order to clarify the wording or summarize results. He may delete outdated messages or proposals and he may edit proposals without having the current votes cleared.

The moderator is the only person who may end Discussion or Conference. This is accomplished by specifying the E-option on the final Conference call statement. The proceedings are erased when the moderator signs off.

The following Conference call option letters are reserved for the moderator:

S   Start a Discussion or Conference. If the S-option is omitted, the user will be asked if he wishes to start the conference.

13

E	End the Discussion or Conference and erase the proceedings from the computer's memory after the moderator signs off. The Party-Line is automatically erased; however, this is the only way to end a Discussion or Conference.
V	Allow the moderator of a conference to view the votes ("+VP") without regard to the 80 percent rule or whether he has voted. This may be turned on or off by the "+O" command.

VI. ADVANCED TOPICS

A. Setting the Number of Messages Received

The number of messages each conference member has received is automatically recorded by the system; however, there are occasions where the user may wish to reset this value. The user may specify the new value when he calls the Conference system by typing:

@CONFERENCE,*options*   *Conference-name.,number-of-messages*

where *number-of-messages* is the new value. The user's number of messages received is set to this value or the current number of messages, whichever is less. Example:

@CONFERENCE,N   AGENDA.,30

B. "+" Commands—Option Letters

The following "+" commands and option letters are designed for advanced and special users:

+@*Control statement*	Performs a CSF$ executive request using the image "@*Control statement.*"
+ES *name*	Allows the moderator to change the status (*on* to *off*) of *name* if that member's status is incorrect.
D	Places the Conference system in "debug mode." In the event of a system error, a snapshot dump of critical memory locations is taken.
O	Echoes back the user's input in the demand mode, or skips echoing back card images in the batch mode. (See M-option for echo back of messages.)
T	During any message (or proposal) retrieval or update, only the title line of the retrieved items is listed. This is most useful in locating items without having to list them.

15

W	Places the user into a passive wait ("sleep") mode in which the user receives new messages but is not requested to enter any message or "+" command. The "sleep" mode is ended by typing "@@X" followed by the "RETURN" key, then typing "+O-W" without waiting for a "?". Should the user wish to end the "sleep" mode while terminal is printing, he should press the "BREAK" key before initiating the above sequence. The wait restriction imposed on the +W commands (a maximum of two 5-minute wait periods per hour) also applies to the "sleep" mode.
X	In the event of a contingency, an EABT$ (abort) exit rather than a normal exit is taken in order to preserve memory for post-mortem examination.

C. Batch Operation

The Conference system may be run in either the demand mode or the batch mode; however, because the second mode does not involve human interaction, and hence, cannot respond properly to dynamic situations, the Conference system handles the two modes differently. Anyone running in the batch mode should be aware of the following differences:

1. Provided the "O" option is not set, card input is automatically echoed back as it is read.

2. With a single exception, no question requiring a <u>"YES"</u> or <u>"NO"</u> answer is ever asked; in particular:

a. "ARE YOU A NEW MEMBER?". The batch member is assumed to be a new member.

b. "ARE YOU THE SAME 'NAME' ALREADY IN THE CONFERENCE?". The batch member is assumed to be same member rejoining the conference.

c. "OKAY TO DELETE?". "YES" is always assumed.

16

d. The display pause is inoperative.

e. The explanation pause at the start of each section is inoperative; the entire explanation is printed.

f. Exception—"OKAY TO CLEAR VOTES?"—asked of the moderator when he is editing a proposal.

3. Any unexpected or error condition causes an immediate exit by the system.

APPENDIX A

SYSTEM MESSAGES AND MEANINGS

MESSAGE	MEANING	ACTION
CONFERENCE SVx.x date–time	Sign on message by the Conference system.	None
IF YOU NEED HELP, TYPE '+L' IN RESPONSE TO 'L#1?'.	Informative message on how to list the explanation during the conference.	None
SORRY, THE EXPLANATION IS NOT AVAILABLE.	The system was unable to read the explanation.	Contact a computer operator
HIT RETURN TO CONTINUE, '+' TO SKIP, '-' TO END?	The system has reached the start of a section in the explanation and is giving the user the opportunity to list or skip the section or to skip the rest of the explanation.	Hit the "RETURN" key to list the section; type a "+" to skip the section; type "-" to skip the explanation and continue in the conference; type "@" to quit the conference.
THE CONFERENCE WILL END WHEN YOU SIGN OFF.	The user as moderator, specified @CONFERENCE,E. When he signs off, the system will purge the conference proceedings from the computer	None. (To abort the purge, type "@@X TIO" followed by the "RETURN" key; then enter the correct @CONFERENCE statement. If the terminal is printing, press the "BREAK" or "INTRPT" key before initiating the above sequence.)
THE CONFERENCE HAS ALREADY STARTED. DO YOU WISH TO JOIN (YES OR NO)?	The user specified @CONFERENCE,S (to start a new conference as the moderator), but a conference with the conference name already exists.	Type "YES" (or "RETURN" key) to join this conference; type "NO" to sign off.
THE CONFERENCE HAS ALREADY ENDED.	The user specified @CONFERENCE,E (to purge the conference), but the conference proceedings already have been purged.	None.
THE CONFERENCE HAS NOT STARTED. DO YOU WISH TO START IT (YES OR NO)?	No conference proceedings exist.	Type "YES" (or 'RETURN" key) to start the conference as the moderator; type "NO" to sign off.
SORRY, UNABLE TO ASSIGN THE CONFERENCE - XXXXXXXXXXXX	The conference exists, but the system was unable to assign the file containing the conference. XXXXXXXXXXXX is a coded number returned to the system explaining the cause for rejection of the assignment.	Try again in 5 minutes; if the problem persists, contact a computer operator.

MESSAGE	MEANING	ACTION
SORRY, THE CONFERENCE IS FULL.	The conference contains 27 members, the maximum allowed in any one conference.	None.
WHAT IS YOUR NAME?	The system is requesting the name by which the user is or will be known within the conference.	Enter the name (1-18 characters).
ARE YOU A NEW MEMBER?	(Demand only.) The name the user entered (possibly misspelled) does not match any other name in the list of conference members.	Type "YES" to join the conference; type "NO" to try again with the correct name.
ARE YOU THE SAME 'name' ALREADY IN THE CONFERENCE?	(Demand only.) The user's name matches a name in the list of conference members.	Type "YES" to rejoin the conference as *name*, type "NO" to enter a different (unique) name.
ENTER A DIFFERENT NAME?	The previous name entered was discarded.	Enter the correct name.
YOU WERE ALREADY A MEMBER.	(Batch only.) The user's name matches a name in the list of conference members. The system assumes he is the same member rejoining the conference.	None.
ENTER EDIT CODE?	(Discussion and Conference moderator only.) The system is requesting the edit code verifying the user as the moderator.	If initially starting the conference, enter a 1-6 character identity code; if rejoining, reenter code to verify identity.
ENTER VOTE CODE?	(Conference member only.) Same as edit code except the user is not the moderator.	Same as for edit code.
INVALID EDIT CODE or INVALID VOTE CODE.	The code the user entered does not match the code kept by the system.	Call the Conference system again and supply the correct code.
ENTER MAXIMUM# OF PROPOSALS ALLOWED (0-72)?	(Moderator only.) Before the system starts a conference, it requires the maximum number of proposals that will be entered into the proceedings in order to determine whether to start a Discussion or Conference and to determine how much storage to reserve for proposals.	Type "0" (zero) if this is a Discussion and no proposals will be allowed; otherwise, type the maximum number (1 to 72) of proposals that will be entered at any one time.

MESSAGE	MEANING	ACTION
YOU ARE NOW THE MODERATOR OF THE CONFERENCE.	The conference has been started successfully and the user is the moderator.	None.
YOU ARE NOT THE MODERATOR.	The user has attempted to perform a task reserved for the moderator (i.e., ending a conference, editing or deleting another member's message). The request is rejected.	None.
CONFERENCE MEMBER STATUS LAST ACTIVITY #MESSAGES RECEIVED	This heading is printed at the beginning of a conference, in response to a "+S" command, and at any point in which a member signs on or off, to identify the current status of the member.	None.
CURRENTLY THERE ARE m MESSAGES AND p PROPOSALS.	The Message is printed whenever the user joins the conference or in response to a "+S" command.	None.
ENTER A MSG OR + COMMAND: L#1?	The system is ready to accept line number 1 of a message (or a "+" command). (The "ENTER..." message is not printed if the N-option is set.)	Enter a message (up to 9 lines of 72 characters each), ending the message with a '+' on a separate line; otherwise, enter a "+" command on line number 1.
THAT'S ALL THE LINES ALLOWED AT ONE TIME. + ASSUMED.	The ninth line of a message has been entered. The message is considered to be complete and the system continues as though "+" had been typed.	None.
INVALID NUMBER.	The format of a number or group of numbers on a "+" command is incorrect. An example of the correct form is: +M 5, 10 TO 20, 35	Reenter the command in the correct form.
'name' IS NOT A CONFERENCE MEMBER.	The name entered on a "+" command was not found in the list of conference members. The "+" command was rejected.	Reenter the command using the correct name.

MESSAGE	MEANING	ACTION
NO PROPOSALS ARE ALLOWED.	A "+" command involving proposals was entered in a Party-Line or Discussion.	Refrain from using "+" commands referencing proposals.
SORRY, NO ROOM FOR THIS PROPOSAL.	The maximum number of proposals allowed by the moderator has already been entered.	Delete unnecessary proposals to make room.
name HAS RECEIVED YOUR PRIVATE MESSAGE.	The user's private message sent to *name* has been received.	The user may now enter another private message or send the current one to someone else.
name HAS NOT YET RECEIVED YOUR PRIVATE MESSAGE.	The user is attempting to send a second private message before the first one has been received. The request is rejected.	Kill sending the outstanding message by typing "+EC" or wait until the first message has been received.
NO PRIVATE MESSAGE TO SEND.	A "+EC *name*" was attempted but there is no private message to send.	Type "+C *name*" to enter a private message.
DISPLAY PAUSE–HIT RETURN KEY TO CONTINUE?	(Demand only.) The display pause (set by the C-option) has been activated and the system has paused to allow the user to read the messages.	When the user is ready to continue, he must press the "RETURN" key to continue the listing or type another character followed by "RETURN" to skip the rest of the listing.
OKAY TO DELETE?	(Demand only.) The system is requesting user verification that this message or proposal should be deleted.	Type "YES" (or "RETURN" key) to delete the message; type "NO" to retain the message.
OKAY TO CLEAR VOTES?	(Moderator only.) The system is requesting whether or not the votes on the proposal the moderator has just edited should be cleared or erased. (This question is asked in the batch mode, also.)	Type "YES" to have the votes cleared; type "NO" to have the votes retained.
STATUS FROM CSF$: XXXXXXXXXXXX	As a result of a "+@" command, the status returned was not 0, but was XXXXXXXXXXXX.	None.
ENTER YOUR CURRENT DES (FEA) VOTE (1-6)?	The system is requesting the user's new proposal vote on the scale of desirability (feasibility).	To enter a new vote choice, enter the new number (1-6); to let the previous vote stand, type the "RETURN" key only.

MESSAGE	MEANING	ACTION
PROPOSAL #DES VOTES #VOTE CHANGES #FEA VOTES #VOTE CHANGES	Proposal summary heading for "+PS" command. Information includes the proposal number, the number of members who voted on each scale and the number of vote changes.	None.
YOUR VOTE SUMMARY: PROPOSAL DES VOTE FEA VOTE LAST VOTED	Vote summary heading for "+VS" command. Information includes the proposal number, the user's last vote on each scale (blank if he did not vote), and the date on which he last voted.	
#p CODE: (1) (2) (3) (4) (5) (6) AVERAGE	Vote heading for "+P," "+PV," or "+VP" command provided the user is entitled to see the votes. Information includes the number of votes cast for each code under both scales and the average excluding No Judgment (6) votes.	None.
YOUR NEW CODE IS 'code'.	As a result of typing "+VC code", the user's new vote (or edit) code has been changed.	None.
ILLEGAL INTERRUPT.	An interrupt sequence has been initiated before the system has signed the user into the conference. The system stops.	Call the system again and refrain from using an interrupt sequence until signed into the conference.
UNRECOVERABLE SYSTEM ERROR.	An error has occurred from which the conference system cannot recover. The system stops.	Rerun using a "D" option (i.e., @CONFERENCE,D). If the error occurs again, contact a computer operator.
CONFERENCE ENDED - date - time	The Conference system has signed off.	To reenter the Conference system, type an @CONFERENCE statement. To terminate the line connection, type an @@TERM statement.
DATA IGNORED - IN CONTROL MODE	Control is now under the Univac 1100 Series Operating System.	To reenter Conference, type an @CONFERENCE.
NO RUN ACTIVE	The user's run is not active.	Enter the @RUN statement again, receive "DATE: TIME:" message, then call the Conference system.

MESSAGE	MEANING	ACTION
WAIT—LAST INPUT IGNORED	The last input image was rejected due to: (1) In demand run mode without a solicit for input. (2) Another statement is being processed.	If there is an unreasonable elapse of time before the last statement is processed, or if there is any evidence of a system malfunction, the user should probably terminate the line connection with an @@TERM and use the available facilities to determine the true system status. If there is no problem, try again.

USER'S GUIDE

FPA COMPUTERIZED CONFERENCING (July 1972)

Party-Line, Discussion, Conference Commands:

+	end or receive new messages
+M *numbers*	retrieve messages by numbers (+M 2,10 TO 20,13)
+M *name*	retrieve messages by author
+? *key phrase*	retrieve messages by content
+L	list explanation
+C *name*	send confidential message to *name*
+EC *name*	send previous confidential message to *name*
+C or +EC	kill sending confidential message
+EC *author*	to see what user wrote
+O *options*	turn option letters on and off
+S	list status of all members
+S *name*	list status of *name* only
+S #	list current number of messages
+W	wait until someone else does something
+W *name*	wait until *name* does something
@	to sign off the Conference system

Discussion and Conference Commands:

+EM	enter a new message
+EM *numbers*	edit messages by number
+EM -*numbers*	delete messages by number
+D *date*	retrieve messages written or edited on *date*
+D *date-time*	retrieve on *date* after *time*
+D *date* TO *date*	retrieve over range
+D *date-time* TO *date-time*	retrieve over range
+D *time*	retrieve messages written today after *time*
+ED *date*	retrieve messages edited on *date*

date and *date-time* form: MM/DD/YY-HH:MM:SS

Examples:
+D 1/1/72 TO 1/5/72
+D 14:30
+ED 1/5/72-13:35

Conference Commands:

+EP	enter proposals
+EP *numbers*	edit proposals by number
+EP -*numbers*	delete proposals by number
+P *numbers*	list proposals by number
+V *numbers*	vote on proposals
+PV *numbers*	combines +P and +V
+PS *numbers*	short summary of voting status
+VP *numbers*	provides just vote results on proposals
+VS *numbers*	user vote summary
+VC *code*	allows user to specify new vote *code*

Note: All proposals are listed if *numbers* is omitted.

Calling Statements:

@CONFERENCE	
@CONFERENCE	*conference-name.*
@CONFERENCE,*options*	*conference-name.*
@CONFERENCE,*options*	*conference-name,#-messages-received*

Examples:
@CONFERENCE   AGENDA.
@CONFERENCE,CN AGENDA.,30
@CONFERENCE,CL EOBA*MEETING/PASS/CODES.

Option Letters:

C	automatic pause for CRT terminals
D	turn on debug mode
E	end the conference (moderator)
L	list explanation
M	don't echo author's messages
N	short interaction mode
O	treat demand user as batch, or vice-versa
S	start the conference (batch)
T	retrieve message titles only
W	enter sleep mode (no user input requested) to exit, type "@@X CIO" followed by "+O-W"
X	abort if error occurs

Note: Use "+O" (letter O) command to turn options on or off

Examples: +O N
            +O -M+CT

Message Editing:

←	character delete
CTRL & X keys	delete the current line
↑	back up one line
	leave line as is
=*n*	jump to line *n* (1 to 9)
RETURN key	carriage return (CR) key blanks the line

Voting Scales:

Desirability (DES)	Feasibility (FEA)	Numeric Code
Very Desirable	Definitely Feasible	1
Desirable	Possibly Feasible	2
Undesirable	Not Determinable	3
Very Undesirable	Possibly Infeasible	4
Not Pertinent	Definitely Infeasible	5
No Judgment	No Judgment	6

Answers to Questions:

Designer - Murray Turoff
Implementor - Rod Renner

APPENDIX C

BIBLIOGRAPHY

The "parents" of the Party-Line and Discussion sections of the Conference system are parts of FPA's large scale management information system, EMISARI. Articles which describe their use within the context of an MIS are:

EMISARI: A Management Information System Designed to Aid and Involve People by R. Renner, R. Bechtold, C. Clark, N. Goldstein, D. Marbray and R. Wynn; submitted to the Fourth International Symposium on Computers and Information Science (COINS-72), 1972.

EMISARI: An On-Line Management System in a Dynamic Environment by R. H. Wilcox and R. H. Kupperman; submitted to the International Conference on Computer Communications, 1972.

A discussion of economic tradeoffs between computerized and verbal conferences may be found in:

"PARTY-LINE" and "DISCUSSION": Computerized Conference Systems by Murray Turoff; submitted to the International Conference on Computer Communications, 1972.

An article which describes the use of a computerized conferencing system involving more complex interaction is:

DELPHI Conferencing: Computer-Based Conferencing with Anonymity by Murray Turoff, Office of Emergency Preparedness - Systems Evaluation Division, Technical Memorandum 125, March 1971. (Also published in Journal of Technological Forecasting and Social Change, Volume 3, Number 2, 1971.)

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